

What is claimed is:

1        1. A method, comprising:  
2            determining, by a grid establishment component, from a plurality of nodes, a set  
3                of grid nodes to include in a resource grid, wherein each grid node  
4                provides zero or more resources; and  
5            establishing, by the grid establishment component, the resource grid, wherein  
6                establishing comprises:  
7                configuring each grid node to enable that grid node to participate as part of  
8                the resource grid; and  
9                establishing one or more grid masters to manage access to the resources  
10                provided by the grid nodes, such that the resource grid formed by  
11                the grid nodes behaves as a single pool of resources accessible  
12                through the one or more grid masters.

1        2. The method of claim 1, wherein each grid node has a grid facilitation  
2        agent operating thereon, and wherein configuring a grid node to enable that grid node to  
3        participate as part of the resource grid comprises:  
4            deploying a grid participation module to the grid facilitation agent operating on  
5        the grid node; and  
6            instructing the grid facilitation agent to run the grid participation module on the  
7        grid node to enable the grid node to participate as part of the resource grid.

1           3.       The method of claim 2, wherein determining the set of grid nodes  
2       comprises:

3           determining which of the plurality of nodes has a grid facilitation agent operating  
4       thereon; and  
5       selecting those nodes as the grid nodes.

1           4.       The method of claim 1, wherein configuring a grid node to enable that grid  
2       node to participate as part of the resource grid comprises:

3           causing the grid node to execute a grid facilitation agent thereon;  
4           deploying a grid participation module to the grid facilitation agent executing on  
5       the grid node; and  
6           instructing the grid facilitation agent to run the grid participation module on the  
7       grid node to enable the grid node to participate as part of the resource grid.

1           5.       The method of claim 4, wherein causing the grid node to execute the grid  
2       facilitation agent comprises:

3           causing the grid node to reboot using an operating system image obtained from a  
4       component separate from the grid node, wherein the operating system image comprises  
5       the grid facilitation agent.

1           6.       The method of claim 4, wherein causing the grid node to execute the grid  
2       facilitation agent comprises:

3 instructing the grid node, via a privileged port of the grid node, to reboot using an  
4 operating system image obtained from a component separate from the grid node, wherein  
5 the operating system image comprises the grid facilitation agent.

1                   7.        The method of claim 6, wherein determining the set of grid nodes  
2                   comprises:

- 3           determining to which of the plurality of nodes the grid establishment component
- 4        has access to a privileged port; and
- 5        selecting those nodes as the grid nodes.

1                   8.        The method of claim 1, wherein configuring a grid node to enable that grid  
2        node to participate as part of the resource grid comprises:

3 deploying a grid facilitation agent to an operating system running on the grid  
4 node:

- 5 instructing the operating system to run the grid facilitation agent on the grid node;
- 6 deploying a grid participation module to the grid facilitation agent running on the
- 7 grid node; and

8                   instructing the grid facilitation agent to run the grid participation module on the  
9                   grid node to enable the grid node to participate as part of the resource grid.

1                   9.        The method of claim 8, wherein each of the plurality of node has an  
2        operating system running thereon, and wherein determining the set of grid nodes  
3        comprises:

4           determining, for each of the plurality of nodes, whether the grid establishment  
5   component has sufficient privileged access to the operating system running on that node  
6   to deploy the grid facilitation agent to that operating system; and  
7           in response to a determination that the grid establishment component has  
8   sufficient privileged access to that operating system, selecting that node as one of the grid  
9   nodes.

1           10.   The method of claim 1, wherein determining comprises:  
2           receiving a set of information from an administrator that specifies the set of grid  
3   nodes.

1           11.   The method of claim 1, wherein establishing the resource grid is  
2   implemented by the grid establishment component without user intervention.

1           12.   The method of claim 1, wherein establishing one or more grid masters  
2   comprises:  
3           establishing the grid establishment component as a grid master.

1           13.   The method of claim 1, wherein establishing one or more grid masters  
2   comprises:  
3           establishing at least one of the grid nodes as a grid master.

1           14. An apparatus communicatively coupled to a plurality of nodes, the  
2           apparatus comprising:  
3           a mechanism for determining, from the plurality of nodes, a set of grid nodes to  
4           include in a resource grid, wherein each grid node provides zero or more  
5           resources; and  
6           a mechanism for establishing the resource grid, wherein the mechanism for  
7           establishing the resource grid comprises:  
8           a mechanism for configuring each grid node to enable that grid node to  
9           participate as part of the resource grid; and  
10           a mechanism for establishing one or more grid masters to manage access  
11           to the resources provided by the grid nodes, such that the resource  
12           grid formed by the grid nodes behaves as a single pool of resources  
13           accessible through the one or more grid masters.

1           15. The apparatus of claim 14, wherein each grid node has a grid facilitation  
2           agent operating thereon, and wherein the mechanism for configuring a grid node to enable  
3           that grid node to participate as part of the resource grid comprises:  
4           a mechanism for deploying a grid participation module to the grid facilitation  
5           agent operating on the grid node; and  
6           a mechanism for instructing the grid facilitation agent to run the grid participation  
7           module on the grid node to enable the grid node to participate as part of the resource grid.

1        16. The apparatus of claim 15, wherein the mechanism for determining the set  
2        of grid nodes comprises:

3            a mechanism for determining which of the plurality of nodes has a grid facilitation  
4        agent operating thereon; and  
5            a mechanism for selecting those nodes as the grid nodes.

1        17. The apparatus of claim 14, wherein the mechanism for configuring a grid  
2        node to enable that grid node to participate as part of the resource grid comprises:

3            a mechanism for causing the grid node to execute a grid facilitation agent thereon;  
4            a mechanism for deploying a grid participation module to the grid facilitation  
5        agent executing on the grid node; and  
6            a mechanism for instructing the grid facilitation agent to run the grid participation  
7        module on the grid node to enable the grid node to participate as part of the resource grid.

1        18. The apparatus of claim 17, wherein the mechanism for causing the grid  
2        node to execute the grid facilitation agent comprises:

3            a mechanism for causing the grid node to reboot using an operating system image  
4        obtained from a component separate from the grid node, wherein the operating system  
5        image comprises the grid facilitation agent.

1        19. The apparatus of claim 17, wherein the mechanism for causing the grid  
2        node to execute the grid facilitation agent comprises:

3           a mechanism for instructing the grid node, via a privileged port of the grid node,  
4    to reboot using an operating system image obtained from a component separate from the  
5   grid node, wherein the operating system image comprises the grid facilitation agent.

1           20.    The apparatus of claim 19, wherein the mechanism for determining the set  
2    of grid nodes comprises:

3           a mechanism for determining to which of the plurality of nodes the grid  
4    establishment component has access to a privileged port; and  
5           a mechanism for selecting those nodes as the grid nodes.

1           21.    The apparatus of claim 14, wherein the mechanism for configuring a grid  
2    node to enable that grid node to participate as part of the resource grid comprises:

3           a mechanism for deploying a grid facilitation agent to an operating system running  
4    on the grid node;

5           a mechanism for instructing the operating system to run the grid facilitation agent  
6    on the grid node;

7           a mechanism for deploying a grid participation module to the grid facilitation  
8    agent running on the grid node; and

9           a mechanism for instructing the grid facilitation agent to run the grid participation  
10   module on the grid node to enable the grid node to participate as part of the resource grid.

1           22. The apparatus of claim 21, wherein each of the plurality of node has an  
2 operating system running thereon, and wherein the mechanism for determining the set of  
3 grid nodes comprises:

4               a mechanism for determining, for each of the plurality of nodes, whether the grid  
5 establishment component has sufficient privileged access to the operating system running  
6 on that node to deploy the grid facilitation agent to that operating system; and

7               a mechanism for selecting, in response to a determination that the grid  
8 establishment component has sufficient privileged access to that operating system, that  
9 node as one of the grid nodes.

1           23. The apparatus of claim 14, wherein the mechanism for determining  
2 comprises:

3               a mechanism for receiving a set of information from an administrator that  
4 specifies the set of grid nodes.

1           24. The apparatus of claim 14, wherein the apparatus establishes the resource  
2 grid without user intervention.

1           25. The apparatus of claim 14, wherein the mechanism for establishing one or  
2 more grid masters comprises:

3               a mechanism for establishing a grid establishment component as a grid master.

1           26. The apparatus of claim 14, wherein the mechanism for establishing one or  
2    more grid masters comprises:  
3            a mechanism for establishing at least one of the grid nodes as a grid master.

1           27. In a system comprising a plurality of nodes, a computer readable medium,  
2    comprising:

3            instructions for causing one or more processors to determine, from the plurality of  
4            nodes, a set of grid nodes to include in a resource grid, wherein each grid  
5            node provides zero or more resources; and

6            instructions for causing one or more processors to establish the resource grid,  
7    wherein the instructions for causing one or more processors to establish comprises:

8            instructions for causing one or more processors to configure each grid  
9            node to enable that grid node to participate as part of the resource  
10           grid; and

11           instructions for causing one or more processors to establish one or more  
12           grid masters to manage access to the resources provided by the grid  
13           nodes, such that the resource grid formed by the grid nodes  
14           behaves as a single pool of resources accessible through the one or  
15           more grid masters.

1           28. The computer readable medium of claim 27, wherein each grid node has a  
2    grid facilitation agent operating thereon, and wherein the instructions for causing one or

3 more processors to configure a grid node to enable that grid node to participate as part of  
4 the resource grid comprises:

5 instructions for causing one or more processors to deploy a grid participation

6 module to the grid facilitation agent operating on the grid node; and

7 instructions for causing one or more processors to instruct the grid facilitation

8 agent to run the grid participation module on the grid node to enable the grid node to

9 participate as part of the resource grid.

1 29. The computer readable medium of claim 28, wherein the instructions for  
2 causing one or more processors to determine the set of grid nodes comprises:

3 instructions for causing one or more processors to determine which of the

4 plurality of nodes has a grid facilitation agent operating thereon; and

5 instructions for causing one or more processors to select those nodes as the grid  
6 nodes.

1 30. The computer readable medium of claim 27, wherein the instructions for  
2 causing one or more processors to configure a grid node to enable that grid node to  
3 participate as part of the resource grid comprises:

4 instructions for causing one or more processors to cause the grid node to execute a  
5 grid facilitation agent thereon;

6 instructions for causing one or more processors to deploy a grid participation  
7 module to the grid facilitation agent executing on the grid node; and

8           instructions for causing one or more processors to instruct the grid facilitation  
9           agent to run the grid participation module on the grid node to enable the grid node to  
10          participate as part of the resource grid.

1           31.     The computer readable medium of claim 30, wherein the instructions for  
2           causing one or more processors to cause the grid node to execute the grid facilitation  
3           agent comprises:

4           instructions for causing one or more processors to cause the grid node to reboot  
5           using an operating system image obtained from a component separate from the grid node,  
6           wherein the operating system image comprises the grid facilitation agent.

1           32.     The computer readable medium of claim 30, wherein the instructions for  
2           causing one or more processors to cause the grid node to execute the grid facilitation  
3           agent comprises:

4           instructions for causing one or more processors to instruct the grid node, via a  
5           privileged port of the grid node, to reboot using an operating system image obtained from  
6           a component separate from the grid node, wherein the operating system image comprises  
7           the grid facilitation agent.

1           33.     The computer readable medium of claim 32, wherein the instructions for  
2           causing one or more processors to determine the set of grid nodes comprises:  
3           instructions for causing one or more processors to determine to which of the  
4           plurality of nodes the grid establishment component has access to a privileged port; and

5           instructions for causing one or more processors to select those nodes as the grid  
6    nodes.

1           34.    The computer readable medium of claim 27, wherein the instructions for  
2    causing one or more processors to configure a grid node to enable that grid node to  
3    participate as part of the resource grid comprises:

4           instructions for causing one or more processors to deploy a grid facilitation agent  
5    to an operating system running on the grid node;

6           instructions for causing one or more processors to instruct the operating system to  
7    run the grid facilitation agent on the grid node;

8           instructions for causing one or more processors to deploy a grid participation  
9    module to the grid facilitation agent running on the grid node; and

10          instructions for causing one or more processors to instruct the grid facilitation  
11    agent to run the grid participation module on the grid node to enable the grid node to  
12    participate as part of the resource grid.

1           35.    The computer readable medium of claim 34, wherein each of the plurality  
2    of nodes has an operating system running thereon, and wherein the instructions for causing  
3    one or more processors to determine the set of grid nodes comprises:

4           instructions for causing one or more processors to determine, for each of the  
5    plurality of nodes, whether the grid establishment component has sufficient privileged  
6    access to the operating system running on that node to deploy the grid facilitation agent to  
7    that operating system; and

8       instructions for causing one or more processors to select, in response to a  
9       determination that the grid establishment component has sufficient privileged access to  
10      that operating system, that node as one of the grid nodes.

1       36.      The computer readable medium of claim 27, wherein the instructions for  
2       causing one or more processors to determine comprises:

3            instructions for causing one or more processors to receive a set of information  
4       from an administrator that specifies the set of grid nodes.

1       37.      The computer readable medium of claim 27, wherein the instructions for  
2       causing one or more processors to establish the resource grid causes the one or more  
3       processors to establish the resource grid without user intervention.

1       38.      The computer readable medium of claim 27, wherein the instructions for  
2       causing one or more processors to establish one or more grid masters comprises:  
3            instructions for causing one or more processors to establish a grid establishment  
4       component as a grid master.

1       39.      The computer readable medium of claim 27, wherein the instructions for  
2       causing one or more processors to establish one or more grid masters comprises:  
3            instructions for causing one or more processors to establish at least one of the grid  
4       nodes as a grid master.